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AUTHOR Ottinger, Cecilia
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ABSTRACT

This research brief reviews the literature concerning recent trends in the service-producing sector of the economy and to speculate on the implications for higher education. An opening section offers highlights noting key facts and statistics and a general profile of service-producing industries. The first of three sections describes some of the major industries within the service-producing sector such as health services, business services, educational services, legal services, and social services. The second section describes government as a portion of the service-industry noting that in the 1980s federal responsibilities were transferred to state and localities, and that government is the third-largest employer within the service-producing sector. The third section looks at the general characteristics of the service-producing industries and covers areas of growth and characteristics of employment. A side bar section offers brief profiles of other large service industries: transportation, communication and utilities, retail and wholesale trade, and finance, insurance, and real estate. A final section reflects on implications for society as a whole and higher education in particular. Fifteen references are listed. (JB)

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# What is the Service Sector?

**Cecilia Ottinger**

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# What is the Service Sector?

**Cecilia Ottinger**

There has been much discussion concerning the changing nature of the labor market, particularly the transition from an economy dominated by the goods-producing sector to one in which the service-producing sector provides most of the growth. We all have been hearing about this structural shift for a while. However, what is the service-producing sector? Are all service-producing industries experiencing growth at the same rate? What impact has the recent downward trend in the economy had on the service-producing sector? And what are the implications for colleges and universities? This research brief reviews recent trends within the service-producing sector of the economy and speculates on their implications for the higher education enterprise.

## HIGHLIGHTS AND IMPLICATIONS

- In 1920, 46 percent of nonfarm wage and salary employment in the U.S. economy was in the goods-producing sector and 54 percent in the service-producing sector; by 1990, the goods-producing sector had been reduced to 23 percent while the service sector expanded to 77 percent.
- Much of the growth that occurred in the service-producing sector in the 1980s is expected to continue through the 1990s, particularly in business, health, legal, social, educational and finance services.
- Growth in these industries indicates that the demand will continue for teachers, lawyers, social workers, business managers, physicians, and various health technicians.
- Unlike previous recessions, the current economic downturn has deeply affected the service-producing sector, particularly the retail trade, real estate, and aircraft industries.
- However, jobs created during this recession are still more likely to be in the service-producing sector than in the goods-producing sector.
- The structural shift in the economy requires individuals with "technical, communication, adaptability, management , problem solving, and influencing skills" (Carnevale, 1991). Since these are the skills one attains via postsecondary education, colleges and universities have a key role in the current and future development of the economy.
- Contrary to popular belief, the service-producing industries are not predominantly ones in which individuals with low levels of skills are required.
  - Between 1990 and 2005, employment in the health services is predicted to increase by 47 percent. A broad range of skilled workers is needed in health care occupations, ranging from nurses and technicians to physicians.
- A key role for higher education in the service-producing economy is to prepare women and minorities to enter those fields in which they are underrepresented, such as business, law and engineering. This is imperative because women and minorities are expected to comprise a larger share of the labor force in the next decade.

*Cecilia Ottinger is the Editor of the American Council on Education's (ACE's) Research Brief Series and Assistant Director of ACE's Division of Policy Analysis and Research.*

## The Service-Producing Industry: A General Profile

The service-producing sector is generally organized in six broad categories (chart 1):

- Government
- Transportation, communications, and utilities
- Wholesale trade
- Retail trade
- Finance, insurance, and real estate
- "Other" Services

There is a widespread perception that the service-producing sector is composed of industries which employ workers in low-skill level and low-wage occupations such as retail trade and fast food enterprises. Although such industries are included in this sector, they are not the bulk of it. The truth is that some of the largest industries within this sector involve very high-skill levels and wages.

- For example, in 1990, 52 percent of employees within the service-producing sector were employed in professional and managerial occupations, compared with only 18 percent of employees in the goods-producing sector (table 1).

Large employers in the service-producing sector with high proportions of professional and managerial workers include government; management and engineering firms; finance and insurance companies; law firms; business services; and health services.

Employment in the service-producing sector grew considerably in the 1980s and at a greater rate than overall employment.

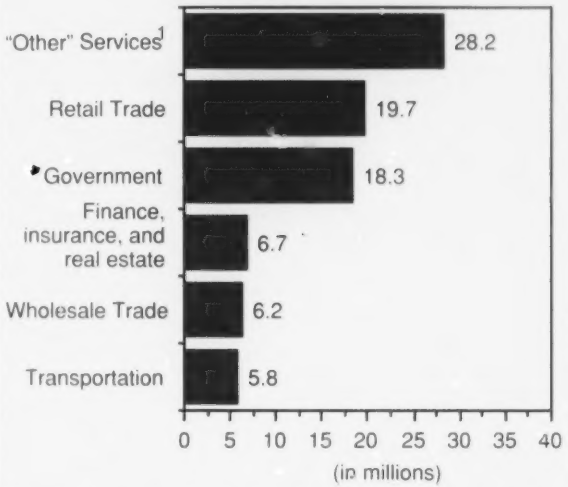
- Between 1980 and 1990, overall employment in the economy increased by 20 percent (from 102 million to 122.6 million). This compares to growth in the service-producing industries, where 65 million were employed in 1980 and 84 million by 1990 — a 29 percent increase (table 2).
- From 1985 to 1990 alone, employment in the service-producing sector grew by 15 percent (72.7 million to 84 million) (table 2).
- During the recessionary period 1989 to 1991, employment in the service-producing sector held steady, with a slight increase of 1 percent (Meisenheimer, et al., 1992).

While the service-producing industries made great strides in the 1980s, the goods-producing sector has declined in its share of employment (charts 2 and 3). This trend has continued since the 1930s.

- The percentage of all nonfarm wage and salary employees working in the goods-producing sector fell from 28 percent in 1980 to 23 percent in 1990.
  - The most significant decline in this sector was in manufacturing, which fell from 22 percent to 17 percent of all U.S. nonfarm wage and salary jobs.

### Chart 1

Employment in Service-Producing Industries, 1990

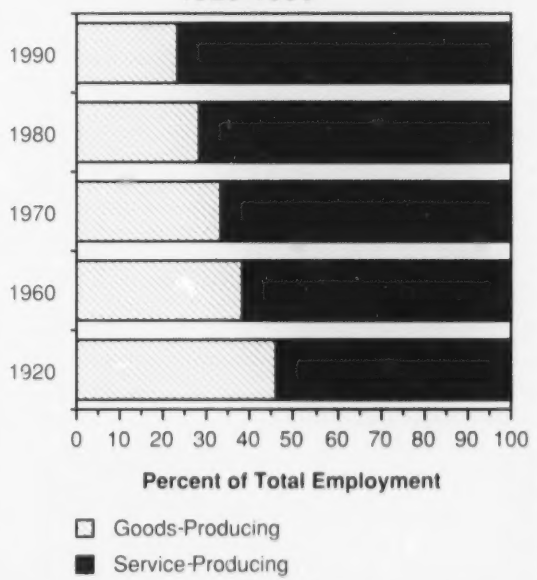



**Source:** Max L. Carey and James C. Franklin, "Industry Output and Job Growth Continues Slow Into Next Century," *Monthly Labor Review*, November, 1991.

1 The "other" services division includes the following industries: hotels and other lodging places, personal services, business services, educational services, auto repair services, and garages, miscellaneous repair shops, motion pictures, amusement and recreation services, health services, legal services, social services, engineering and management services, and museums, zoos and membership organizations.

### Chart 2

Distribution of Employment by Industry, 1920-1990




**Source:** U.S. Census Bureau, 1991 Statistical Abstract and Historical Statistics of the U.S.: Colonial Times To 1970.

## Table 1

Percent Distribution of Industry by Selected Occupations, 1990

| Industry | Managerial & Professional Specialty | Technicians & Related Support |
|---|---|---|
| **Total, Goods-Producing** | **18%** | **3%** |
| Mining | 25% | 15% |
| Construction | 2% | 14% |
| Manufacturing | 2% | 4% |
| Agriculture | 5% | 1% |
| **Total, Service-Producing** | **52%** | **5%** |
| Services | 44% | 6% |
| Business | 30% | 5% |
| Health | 40% | 13% |
| Educational Services | 62% | 2% |
| Social Services | 45% | 1% |
| Other Professional Services | 60% | 7% |
| Government | 36% | 4% |
| Transportation, Communication, & Utilities | 18% | 4% |
| Wholesale Trade | 13% | 1% |
| Retail Trade | 10% | 1% |
| Finance, Insurance & Real Estate | 29% | 2% |

**Source:** U.S. Department of Labor, Bureau of Labor Statistics, unpublished data tabulations, 1992.

## Table 2

Employment in Service-Producing Industries 1980, 1985, and 1990 (in millions)

| Industry | Years 1980 | 1985 | 1990 | Percent Change 1980-1990 |
|---|---|---|---|---|
| **Total Service-Producing** | **64.7** | **72.7** | **84.4** | **(29%)** |
| Transportation, comunication and utilities | 5.1 | 5.2 | 5.8 | (14%) |
| Wholesale Trade | 5.3 | 5.7 | 6.2 | (17%) |
| Retail Trade | 15.0 | 17.3 | 19.7 | (31%) |
| Finance, insurance and Real estate | 5.2 | 6.0 | 6.7 | (29%) |
| Services[1] | 17.7 | 22.0 | 28.2 | (59%) |
| Government | 16.2 | 16.6 | 18.3 | (13%) |

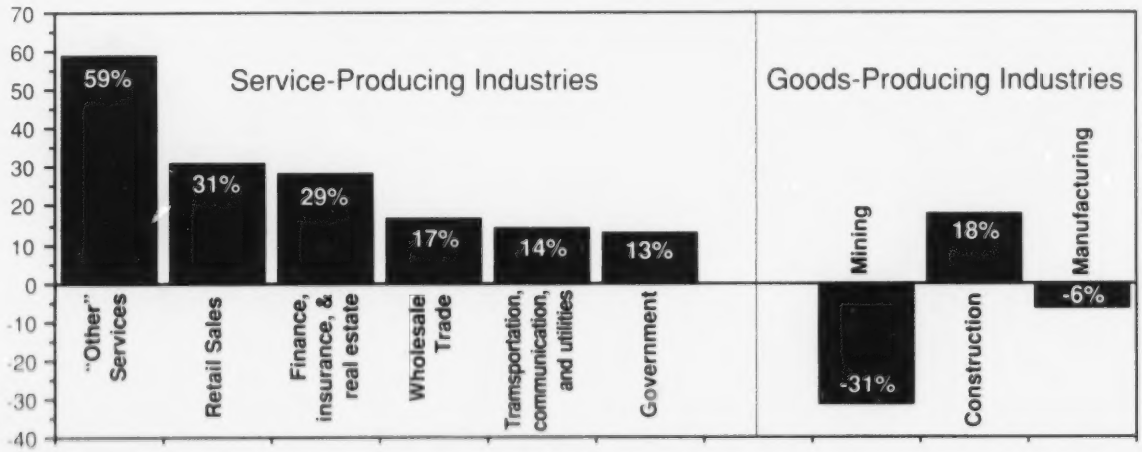
**Sources:** Max L. Carey and James C. Franklin, Industry Output and Job Growth Continues Slow Into Next Century, *Monthly Labor Review*, November, 1991.

U.S. Department of Labor Statistics, unpublished data tabulations, 1992.

1 Services includes the following sub-categories of service-producing industries: health services, business services, social services, educational services, engineering management and services, amusement and recreational services, museums, zoos and membership organizations, auto repair services, motion pictures, hotels and other lodging services, and personal services.

## Chart 3

Percent Change in Industries, 1980 to 1990




**Sources:** Max L. Carey and James C. Franklin, Industry Output and Job Growth Continues Slow Into Next Century, *Monthly Labor Review*, November, 1991.

U.S. Department of Labor Statistics, unpublished data tabulations, 1992.

## Table 3

Employment in Selected "Other" Services, by Industry 1980, 1985, and 1990 (in millions)

| Industry | Employment 1980 | 1985 | 1990 | Percent Change 1980-1990 |
|---|---|---|---|---|
| **Total "Other" Services** | 17.7 | 21.9 | 28.2 | 59% |
| Health | 5.3 | 6.3 | 7.8 | 47% |
| Business Services | 2.6 | 3.7 | 5.2 | 100% |
| Education Services[1] | 1.1 | 1.4 | 1.7 | 55% |
| Engineering & Mgmt | na | na | 2.5 | |
| Social Services | 1.1 | 1.4 | 1.8 | 64% |
| Legal Services | .5 | .7 | .9 | 80% |
| Auto repair and related | .6 | .7 | .9 | 50% |
| Personal services | .8 | 1.0 | 1.1 | 38% |

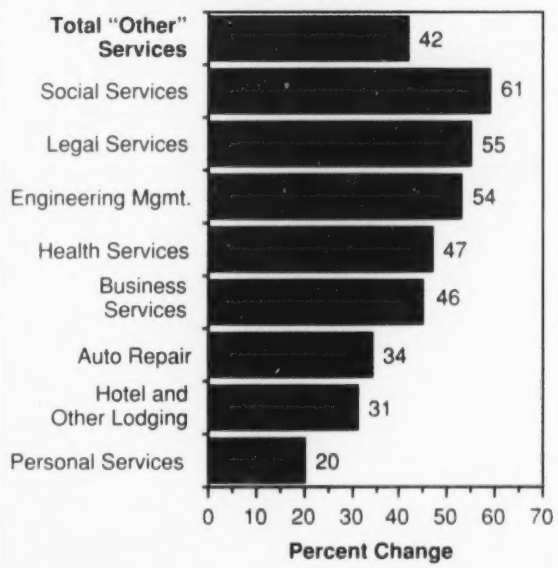
**Sources:** U.S. Department of Labor, Bureau of Labor Statistics, unpublished data tabulations, 1992.

na= not available

1 The educational services category includes only private education; the sub-categories are: elementary and secondary schools, colleges and universities, and libraries, vocational and other schools. Public education is included in the government category (see Table 4).

## Chart 4

Projected Growth in the "Other" Services, 1990 to 2005*




**Source:** Max L. Carey and James C. Franklin, "Industry Output and Job Growth Continues Slow Into Next Century," *Monthly Labor Review*, November, 1991.

* Moderate growth projections

According to projections, employment in the U.S. economy is expected to increase by 24.6 million between 1990 and 2005, from 122.6 million to 147.2 million (Carey and Franklin, 1991). Almost all of this growth is expected to be in the service-producing industries.

However, with the recent downturn in the economy, it is difficult to determine the longterm impact of the recession. The future is clouded by uncertainty, and projections are only glimpses of what might happen. Changes in technology and redistribution of spending on various governmental programs may affect patterns of future employment.

- The service-producing sector is expected to increase employment by about 23 million between 1990 and 2005.
- Between 1990 and 2005, more than 9 out of 10 of the new jobs in the overall economy will be in the service-producing sector (23 million out of 24.6 million).

Although there has been sustained growth in the service-producing sector of the economy in the 1980s and this trend is expected to continue during the 1990s, there are significant differences within the various service industries.

## I. Key Service Areas

In this section of the brief, trends in some of the major industries within the service-producing sector will be highlighted, as well as the major subsectors within particular categories. Future growth will be discussed, particularly in those industries in which a large number of those with at least some postsecondary education are employed or will be employed in the future.

The "other" services category has shown the most growth of all service-producing industries in the 1980s. A wide variety of industries are included in this category (table 3). In this report, we will focus on those subcategories of the "other" services which have the greatest implications for college graduates. These include: health, business, educational, engineering, and management services, legal, social and finance services.

- Between 1980 and 1990, the number of nonfarm wage earners in "other" services increased from 17.7 million to 28.2 million, a 59 percent increase.
- By 1990, one-third of all employment in the service-producing sector was in the "other" services category.
- Employment in "other" services is expected to increase by 42 percent between 1990 and 2005 (chart 4).

### HEALTH SERVICES

Employment in the health services industry increased substantially in the 1980s.

- During the period 1980 to 1990, employment in health services increased by 47 percent, from 5.3 million to 7.8 million. From 1985 to 1990 alone,

employment in health care industries grew by almost one-third (32 percent).

- Health services accounted for 8 percent of the total wage and salary employment in 1990 (BLS, Occupational Outlook Quarterly, 1992).
- Despite the recession, health services grew robustly during 1991, employing 8.4 million — an 8 percent increase over 1990. It appears that the health services industry is relatively immune to recessionary job losses (Meisenheimer, et al., 1992).

The growth in this industry is due to several factors. First, in terms of demographics, as the elderly population increases, demand for health care services will increase. In addition, health care needs of "Baby Boomers" will increase as they enter middle-age. Finally, new technology has increased the demand for more care.

The growth in the health services industry has varied; some health care industries have experienced faster growth than others.

- Private hospitals provide most of the employment in the health services industry; in 1990, 3.5 million people were employed in private hospitals (Carey and Franklin, 1991).
- The second-largest employers were offices of health practitioners, which employed 2.2 million people in 1990. This category includes medical doctors, dentists and other health practitioners' offices.
- During the decade 1980 to 1990, employment in health practitioners' offices almost doubled, from 1.2 million employees to 2.2 million.
- By 2005, overall employment in the health care industry is expected to increase to 11.5 million; this represents a 47 percent increase over 1990 (chart 5). Over 2 million individuals are expected to be employed at nursing and personal care facilities —an increase of 57 percent over 1990.
- Between 1990 and 2005, employment in the offices of health practitioners is projected to add 1.3 million jobs to the economy — an increase of 59 percent.

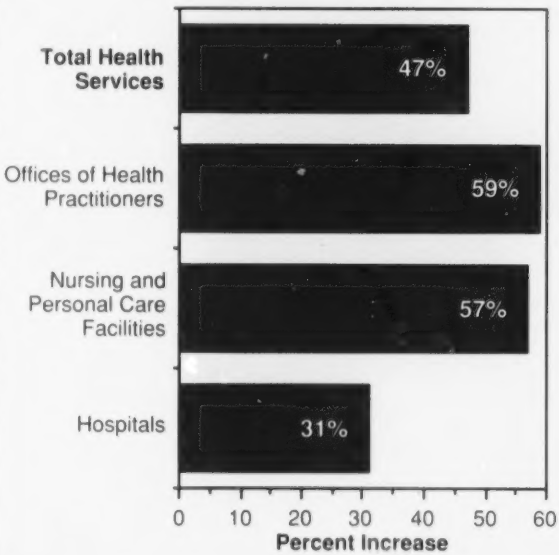
## BUSINESS SERVICES

During the 1980s, business services (e.g., advertising, data processing, and personnel support services such as recruiting and temporary help) was the most rapidly growing of the "other" services category. Much of the growth in this area is due to technological advances and the global trend toward automation.

- Between 1980 to 1990, employment in business services soared, doubling from 2.6 million to 5.2 million.
- By 1990, employment in business services comprised 18 percent of all jobs in the "other" services category.
- According to BLS, the growth in business services began to slow down in the second half of 1990 and then began a pattern of slow growth in 1991 (Meisenheimer, et al., 1992). In 1991, 5.4 million were employed in these industries.
- Personnel support services are the largest component of the business services sector. In 1990, 1.6 million were employed in personnel services; this was 31 percent of all employment in the business sector (chart 6).
- Personnel support industries more than doubled during the 1980s. In 1980, employment stood at 518,000; by 1990, 1.6 million were employed in these industries.

**Chart 5**

Employment Growth in Selected Health Services, 1990-2005*




**Source:** Max L. Carey and James C. Franklin, "Industry Output and Job Growth Continues Slow Into Next Century," *Monthly Labor Review*, November 1991.

* Moderate growth projections

Temporary services grew considerably during the economic recovery of the 1980s. Organizations used them as one way to increase flexibility (Plunkert, 1990).

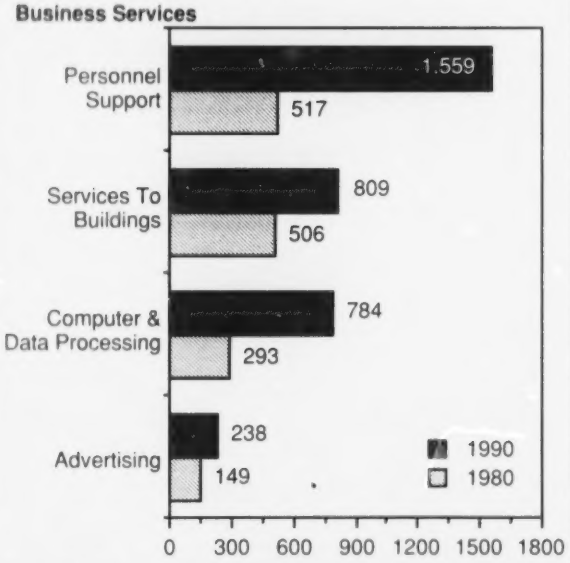
Another large growth area in business services during the 1980s was in computer and data processing services.

- Computer and data processing services nearly tripled in the 1980s. In 1980, 293,000 persons were employed in computer services; this figure increased to 784,000 in 1990.
- From 1985 to 1990, employment in computer and data processing services increased by 53 percent.

Growth in the business services industries is expected to continue through the 1990s:

## Chart 6

Growth in Business Services Industries, 1980 to 1990 (in thousands)




**Source:** Max L. Carey and James C. Franklin, "Industry Output and Job Growth Continues Slow Into Next Century." *Monthly Labor Review*, November 1991.
Bureau of Labor Statistics, unpublished data tabulations, 1992.

- From 1990 to 2005, employment in the business services industry is expected to increase by 43 percent (from 5.2 million to 7.6 million). This is an annual growth rate of 2.5 percent.
- Most of this growth in business services is expected to be in computer and data processing services. Employment in this industry will increase by 91 percent, adding 410,000 jobs to the economy.

## EDUCATIONAL SERVICES[2]

### *PUBLIC EDUCATION*

Employment in education sponsored by state and local government stood at 7.8 million in 1990. More than 1 million jobs were added to education during the 1980s (from a total of 6.6 million in 1980).

- Between 1980 and 1990, employment in state education agencies increased by 21 percent, while local education employment went up by 20 percent.
- In 1990, 1.7 million persons were employed in state education and 6.1 million were employed at the local government level.

One assumes public education at the local level refers to elementary and secondary education.

- In 1987, 5.6 million individuals were employed in education at the local government level; 3.6 million of these were teachers (Statistical Abstract, 1990).
- At the state education level, much of the employment is in the higher education sector. According to the most recent data from the National Center for Education Statistics (NCES), in 1987 there were 1.6 million workers employed in public higher education (Digest of Education Statistics, 1992).
- Job opportunities for college and university faculty are expected to have average employment growth with a 19 percent increase between 1990 and 2005. Future job prospects will be best for faculty in business, engineering, and computer and science fields. (Occupational Outlook Quarterly, Spring 1992).
- Between 1990 and 2005, most of the growth will be experienced in local education (with a 21 percent increase) while state education employment is expected to increase by 18 percent during this period.
- The employment prospects for elementary and secondary teachers are expected to be good. Job openings are predicted to increase considerably in the mid-1990s, as a large number of teachers reach retirement age (Occupational Outlook Quarterly, Spring 1992).
- Projections show that between 1990 and 2005, overall employment in the public education sector will increase by 21 percent.

### *PRIVATE EDUCATION*

- During the 1980s, employment in private education increased 53 percent (there was a 21 percent increase from 1985 to 1990).
- In 1990, more than half of all employment in educational services (53 percent) was in independent colleges and universities.
- In 1990, 1.7 million people were employed in private educational services; this was up from 1.1 million a decade earlier.
- Private educational services include: elementary and secondary schools (457,000) colleges and universities (1,038,000); libraries, vocational, and other schools (93,000).
- Private educational services are expected to increase to 2.3 million by 2005, a 35 percent increase from 1990.
- Employment at private colleges and universities is expected to reach 1.3 million by 2005. This represents a 31 percent increase.

## ENGINEERING AND MANAGEMENT FIRMS

Overall, 2.4 million jobs were in engineering and management firms in 1990. This category includes: engineering and architectural services (794,000); accounting, auditing, and bookkeeping (538,000); and management and public relations (563,000).

According to BLS, "the economic weakness in 1991 resulted in employment declines among engineering and management firms" (Meisenheimer, et al., 1992).

- In 1980, there were 382,000 employees in engineering and architectural services. By 1985, the figure had increased 83 percent, to 700,000.
- Between 1980 to 1990, the number of employees in engineering and architectural services increased by 43 percent, adding 237,000 jobs to the economy.
- Engineering and architectural services, the largest employer within the engineering and management services category, comprised one-third of all employment in this sector in 1990.
- Engineering and architectural services are projected to reach 1.1 million by 2005; this represents a 36 percent increase. Although not as dramatic an increase as in previous periods, this is still a much faster rate of growth than the overall economy.

### LEGAL SERVICES

- Employment in the legal field increased dramatically, by 91 percent during the decade 1980 to 1990, from 481,000 to 919,000.

The growth in legal services has been attributed to wider use of legal services by middle-income groups and increases in legal activities related to international trade (Carey and Franklin, 1991).

- It is predicted that employment in legal services will increase 55 percent between 1990 and 2005.
- The demand for lawyers is expected to lead to faster than average employment growth; between 1990 and 2005, employment of lawyers and judges is predicted to increase by 34 percent (Occupational Outlook Quarterly, Spring 1992).

### SOCIAL SERVICES

- In 1990, 1.8 million persons were employed in social services (up from 1.1 million a decade earlier).
- In 1990, the social services included: individual and miscellaneous social services (638,000); job training and related services (247,000); child day care (457,000); and residential care (146,000).

Due to the increases in child day care, which grew as a result of rising birth rates, the social services have not been affected by the recent downturn in the economy.

Similarly, individual social services also gained jobs in 1991, probably due to the increased demand for these services as a result of the recession.

- Between 1990 to 2005, jobs in social services are projected to increase by 61 percent (from 1.8 million to 2.9 million).
- Most of the employment growth in social services will be due to the increased demand for child care (due to more women in the workforce) and the impact of the aging population (because many will require residential care).

## II. Profile of Government

Growth in government employment shifted in the 1980s. This was primarily because federal responsibilities were transferred to states and localities, then added employment during this period of economic growth.

Government is the third-largest employer within the service-producing sector; overall government employment grew by 13 percent between 1980 and 1990 (table 4).

- State government employment grew by 20 percent between 1980 and 1990.
- Local government added the most jobs during the 1980s. In 1990, local government comprised 60 percent of all government employment.

### FEDERAL

Federal government demonstrated the slowest growth in the 1980s among all governmental sectors.

- During the period 1980 to 1990, federal employment only increased by 8 percent.

However, within the federal sector, there are divergent patterns in employment growth.

- During 1980-90, employment in the federal judicial system experienced a considerable increase (53 percent).
- In contrast, employment in the legislative branch of the federal system declined by 5 percent between 1980 and 1990.
- Federal sector employment is expected to grow by only three percent between 1990 and 2005 (Carey and Franklin, 1991).

The federal government's slowing growth in present and in future employment projections can be attributed to the burgeoning federal deficit and cutbacks in spending. Beginning with the Omnibus Reconciliation Act of 1981, various governmental programs experienced drastic reductions in spending and some insurance programs were phased out.

### STATE

Employment in state government increased from 3.8 million to 4.3 million during the decade; however, this growth was uneven.

- State hospitals lost 95,000 employees between 1980 and 1990. This decline may reflect the impact of the deinstitutionalization of mental patients.
- State general administration added more than a half million jobs during this period (a 59 percent increase).

### LOCAL

- Local government's employment increased 12 percent during the 1980s, from 9.7 million to 10.9 million.

- Most of the growth in employment at the local level was in education, which experienced an 18 percent increase.

Both state and local governments were affected by the recession and the revolt by citizens against tax increases in the early 1980s; however, many state and localities later reaped benefits from tax increases, user fees, privatization of various services and state lotteries.

Nevertheless, during the recessionary 1990s, the tax revenues of state and local governments fell sharply and the budget difficulties led to layoffs and cutbacks, such as furloughs.

## III. Characteristics of Service-Producing Industries

It is clear that the service-producing industries are a major component of the economy, particularly the "other" services category. These industries provided the bulk of the job growth in the 1980s. During the economic downturn, the "other services" was the only major industry to have job increases throughout 1991. However, these gains did not offset the declines in the goods-producing sector, as they have done traditionally (Meisenheimer, et al., 1992).

**Table 4**

Employment Growth in Government
1980 to 1990 (in thousands)

| Industry | 1980 | 1990 | Percent Change |
|---|---|---|---|
| **Government** | 16,170 | 18,291 | 13% |
| Federal Government | 2,866 | 3,085 | 8% |
| Other Federal | 2,813 | 3,024 | 8% |
| Legislative | 400 | 38 | -5% |
| Judicial | 15 | 23 | 53% |
| State Government | 3,575 | 4,284 | 20% |
| Hospital | 549 | 454 | -17% |
| Education | 1,390 | 1,695 | 22% |
| General Administration[1] | 1,012 | 1,608 | 59% |
| Other | 624 | 527 | -16% |
| Local Government | 9,729 | 10,922 | 12% |
| Transportation & Public Utilities | 617 | 489 | -21% |
| Hospitals | 587 | 673 | 15% |
| Education | 5,101 | 6,041 | 18% |
| General Administration | 3,026 | 3,376 | 12% |
| Other | 398 | 343 | -14% |

**Source:** Bureau of Labor Statistics, unpublished data tabulations, 1992.

[1] Includes executive, legislative and judicial functions.

### SERVICE INDUSTRIES WITH THE MOST GROWTH

The service-producing industries have had varied trends in the 1980s. Not all service industries shared equally in the growth or in the recessionary downturn over the last couple of years. During the period 1980 to 1990, several service-producing industries provided the most employment in the labor market. The fastest growing industries providing opportunities for those with a college degree or some postsecondary education were the business and health service fields.

### SERVICE-PRODUCING INDUSTRIES AND OCCUPATIONS

Business services grew faster than any "other" service-producing industry between 1980 and 1990. This is due to the demand for many different types of business services, such as computing and temporary help. Although employment growth has slowed during this recession, in 1991, business services still comprised 18 percent of all employment within the "other" services category, as it did in 1990.

- Growth in business services affects a wide range of occupations, many of which require a considerable amount of education and training.

Occupations in the business services industry range from those requiring postsecondary education, such as systems analysts and computer scientists, electrical and electronic engineers, marketing, and advertising and public relations managers, to those that require little education, such as guards and truck drivers.

- The occupations within business services that are expected to grow considerably between 1990 and 2005 are those for which postsecondary education is required. For example, employment of electrical and electronic engineers is expected to increase by 95 percent during this period, while employment for guards is expected to increase by 50 percent.

Another growth area during the 1980s was health services. Health services also has continued to grow during the recessionary period.

- Most of the growth in the health services was in the offices of health practitioners.

Within the health services there are many occupations which require a college degree or some type of postsecondary education, such as registered nurses, health services managers, physical therapists, respiratory therapists, and occupational therapists.

- For example, between 1990 and 2005, the employment of physical therapists is expected to increase by 76 percent.

Most of the jobs in the service-producing industries benefit individuals who have some postsecondary education or a college degree.

- College-educated workers tended to be employed in certain occupational groups. For example, in

## Table 5

Educational Attainment of Workers, by Selected Occupations, 1990

| Occupational Group | Educational Attainment of Workers | | | |
|---|---|---|---|---|
| | Less than High School | High School | 1 to 3 years of College | 4 years of College or More |
| **All Occupations** | **15%** | **39%** | **22%** | **24%** |
| Managerial | 4% | 27% | 24% | 45% |
| Professional Specialty | 1% | 8% | 16% | 74% |
| Technician | 3% | 28% | 37% | 33% |
| Marketing & Sales | 12% | 39% | 25% | 24% |

Rows may not equal 100 due to rounding.

**Source:** Bureau of Labor Statistics, *Occupational Outlook Quarterly , Fall 1991.*

1990 almost three-quarters (74 percent) of individuals employed in professional specialty and managerial occupations had a college degree (table 5).

- Sixty percent of workers with positions in managerial occupations had a college degree or some college experience.

- Although the current recession and unemployment hit all occupational levels, managers and professionals still have the lowest unemployment rate. In 1991, the unemployment rate for these groups stood at 2.9 percent, compared to 10.3 percent for blue collar workers (i.e., operators, fabricators, and laborers).

However, this is the first recession in which the increase in unemployment for managers and professionals was about equal to the increase for blue collar workers. This indicates that white collar workers have been hit harder in this recession than in other recessionary periods.

- Overall, managerial, professional, and technical occupations had the highest proportion of workers with at least three years of college. Between 1990 and 2005, these occupations are expected to grow faster than the overall rate of growth in the job market.

Most of the employment in managerial and professional specialty occupations is within the service-producing sector.

- In 1990, more than half of the workers employed in the service-producing sector held positions in the managerial and professional specialty occupations (52 percent) (table 1). This is compared to 18 percent of employees in the goods-producing sector.

The distribution of workers in the service-producing sector who held managerial and professional specialty occupations varied:

- More than 6 out of 10 workers employed in educational services held managerial and professional specialty occupations. This is in contrast to business services, where the proportion was only 3 of 10.

While it appears that those with postsecondary education are especially found in the service-producing sector, this does not hold true for all groups in society.

- In 1990, African Americans and Hispanics comprised only 7 percent and 3 percent of all professional positions.

- Within the professional occupations only 6 percent of systems analysts were African American, and about 1 percent were Hispanics.

- In contrast, women comprise more than half of the persons in professional specialty occupations (51 percent); however, large proportions of women are in the traditional female occupations within this group. For example, in 1990, 85 percent of elementary teachers were women. In contrast, women comprised only 9 percent of employed engineers.

## CHARACTERISTICS OF EMPLOYMENT BY INDUSTRY

What are some of the characteristics of the employees in the service-producing industries?

- Women were more likely to be employed in the "other" services category than men; in 1983, 61 percent of all employees in this category were women. In comparison, one-third of the employees in manufacturing industries were women.

- The proportion of women in these services held steady during the five-year period 1983 - 1988.

# Profile of Other Large Service Industries

The service-producing sector is large and diverse. In this section, additional service-producing industries that employ a large number of people are profiled. However, these service-producing industries typically do not employ many college graduates.

## TRANSPORTATION, COMMUNICATIONS AND UTILITIES

Transportation, communications and public utilities industries experienced the slowest growth of the service-producing sector in the 1980s.

- These industries grew 13 percent between 1980 and 1990, from 5.1 million to 5.8 million.
- During the period 1985 to 1990, these industries experienced a decline from 6.2 million to 5.8 million jobs — a 6 percent decrease.

This does not tell the full story, since each of these industries has been affected differently by the economy in the 1980s, and there are dramatic contrasts.

- Transportation employment went up by 24 percent during the 1980s.
- Employment in air transportation almost doubled in the 1980s. In 1980, 453,000 persons were employed by the airlines, but, by 1990, 751,000 held jobs in this industry.
- Following the growth in the 1980s, the air transportation industry experienced a decline in 1991. During recessions, many businesses and individuals cut back on travel.
- From 1990 to 2005 this industry is expected to increase by 31 percent, to a total employment of 1.0 million.
- During the 1970s, communications employment grew by 25 percent; in contrast, during the 1980s, employment in this industry declined by 7 percent (from 1.4 million to 1.3 million).

The break-up of AT & T probably contributed to the employment decline in the communications industry, which led to cost-cutting measures and resulted in layoffs.

- In 1990, the telephone communications field employed about 879,000 workers. This was 19 percent less than in 1980, when 1.1 million were employed.

## RETAIL TRADE AND WHOLESALE TRADE

- Between 1980 and 1990, employment in retail trade increased by 30 percent. Projections indicate that employment in retail trade will increase by 26 percent.
- In 1991, the retail trade industry experienced one of the largest drops in employment. Between 1990 and 1991, a total of 170,000 jobs were lost in this industry (Meisenheimer, et al., 1992).
- Wholesale trade employment increased 18 percent during the 1980s from 5.3 million in 1980 to 6.2 million in 1990. This industry is projected to add 1 million jobs between 1990 and 2005 (a 16 percent increase).

## FINANCE, INSURANCE AND REAL ESTATE

The finance, insurance, and real estate industry is composed of: depository institutions; nondepository holding and investment offices; securities and commodity brokers; insurance carriers and brokers; and service and real estate agents.

- This industry employed 6.7 million people in 1990. This was up from 5.2 million a decade earlier (a 29 percent increase).
- During the 1990s, growth in the finance, insurance and real estate industries is expected to increase only 21 percent, a somewhat lower rate of job growth than during the previous decade.
- Employment in the finance industry declined between 1990 and 1991 due to the financial problems facing banking institutions, coupled with the recession.
- The real estate industry has also been hit by the recession due to the tightening of lending standards.
- Real estate employment is projected to rise by 23 percent (from 1.3 million to 1.6 million) between 1990 and 2005.
- Growth in employment in depository institutions will slow appreciably between 1990 and 2005. Only a 9 percent increase is expected.
- In contrast, employment in nondepository holding and/or investment offices (e.g., finance companies and mortgage companies) is expected to increase 46 percent between 1990 and 2005.

## IMPLICATIONS

For the past two years, the U.S. economy has been in a recession. The economy is characterized by increasing unemployment, consumer debt, rising taxes and little discretionary income to spend. It is further marked by the national budget deficit, slow export growth, and weak demand for goods and services. These conditions will probably restrain economic growth in the short-run. However, it is difficult to determine what long term impact these economic conditions may have on employment patterns.

According to the Bureau of Labor Statistics (BLS), overall employment declines were not unusually severe compared with previous recessions, but job losses were more broadly based than during other economic downturns. In the service-producing sector, job creation was weak, by recessionary standards. However, the service-producing industry was the only major industry to gain jobs throughout 1991, particularly the "other" services category.

- According to BLS, between 1988 and 1992 the U.S. economy experienced a 3 percent increase in overall increase, compared to a 13 percent increase in the "other" services during this period (BLS, 1992).

Despite the recession, most of the growth in employment will continue to take place in the service-producing industries. The shift of production from goods to services is a crucial trend that will shape the future of the economy.

The service-producing sector is comprised of diverse industries requiring various levels of skills and talents. Much of the growth within this sector has been in the "other" services category, industries ranging from business, retail, and finance services to education and social services. Business services and health services were two of the largest components of the services category during the 1980s. This expansion is expected to continue into the next decade. Many of the occupations associated with these industries require postsecondary education and training. Colleges and universities have a key role in supplying the human resources to fuel the service-producing economy.

In addition, business services have grown and are expected to continue to grow. This implies that occupations related to these fields (e.g., computer-related jobs, management and administration, and human resources) will provide employment to those with the requisite skills. College graduates will still fare well in the 1990s in occupations such as computer systems analysts. As noted by BLS, "job prospects for college graduates in the computer fields will be very good, particularly those who combine courses in programming and systems analysis with training and experience in applied fields" (Occupational Outlook Quarterly, 1992). This raises the issue for colleges and universities of identifying the mix of skills students will need in a more competitive labor market. How can the college curriculum reflect the broad range of skills needed for success in the labor market?

Higher education should play a major role in providing opportunities to women and minorities in fields in which they are underrepresented and in developing programs to encourage these groups to move into non-traditional fields.

According to the Bureau of Labor Statistics, women and minorities are expected to comprise a larger component of the labor market. Between 1990 and 2005, women will account for half of the new entrants to the labor force, while Hispanics will comprise 16 percent and African Americans, 13 percent (Occupational Outlook Quarterly, Fall 1991).

Currently, women dominate health technician fields. For example, in 1990, more than half of radiological technologists and technicians were women (58 percent) (BLS, 1992). However, minorities do not fare as well; only five percent of African Americans and seven percent of Hispanics were employed in these occupations in 1990. These data indicate that there is a need to get minorities and perhaps more men trained in these areas.

Many of the needs of the service-producing sector can only be fulfilled by the postsecondary education enterprise. Postsecondary education is key to America's competition in the global market.

Higher education can also play a role in identifying the employment needs on a regional basis since the growth in various service-producing industries will probably vary by region.

However, analysis of the service-sector also indicates that there has been and will be growth in industries and jobs that are at the opposite end of the education continuum. Many of the jobs in retail trade and in hotels and personal service industries (e.g., laundry cleaning and shoe repair) are low-wage, minimum education jobs. As noted by demographer Harold Hodgkinson, "the best guess is that we are creating two work forces: one in minimum wage occupations that can be performed by high school dropouts, such as janitor, clerk, hotel room maid and in the other well-paid occupations in technical or administrative positions that need some college for entry" (Hodgkinson, 1992). The point is that jobs in the middle of the economic range are declining while higher end and lower end jobs are expanding and are expected to continue above-average growth.

This raises the issue of who will benefit from these structural changes and what does this mean for America's future? The facts that minorities currently in the workforce are not well-represented in the large growth occupations and that they are expected to comprise a larger share of the workforce, suggest that many of them will be relegated to low-paying occupations. Higher education is the key to achieving the American dream in the current and future economy, and for minorities in particular, access to higher education is crucial both for the individual and to our country, which will be relying more and more on those currently lacking the skills essential to the economy.

## ENDNOTES

1. The "other services" is a broad category comprised of a diverse set of industries, including hotels and lodging places; personal services (i.e., laundry and shoe repair, beauty and barber shops and funeral service) business services; auto repair and other repair shops; motion pictures; amusement and recreation services; health services (including hospitals); legal services; private schools, colleges, and other educational services; social services; museums; membership organizations; engineering and management firms; services not elsewhere classified (n.e.c.); and federal, state and local government.

2. Data on educational services is included in two categories: 1) Private education data is in the "services" category and includes data on private elementary and secondary schools; also included are private colleges and universities, and private libraries, vocational and other schools; 2) Public education data is collected under the state and local government categories. However, there are no further breakdowns by categories as is the case with the private education data.

## RESOURCES

1 The Bureau of Labor Statistics (BLS) collects data monthly on industry trends. A survey is conducted in cooperation with state agencies. More than 290,000 establishments (representing all industries except agriculture) participate. For more information, contact BLS' industry employment division at (202) 606-6555.

2. The *Occupational Outlook Quarterly* devotes an annual issue to future trends in the gross national product (GNP); the labor force, industrial growth and occupational growth are also highlighted. For further information, contact the OOQ office at (202) 272-5298.

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